were 4.2, 3.9, and 3.6, respectively, for the low-, medium- and high-phosphorus levels. In the third experiment, the reactions were adjusted to pH 7.3, 6.2, and 6.5, respectively, by using one to two drops of strong sodium hydroxide. Acidity of the solutions was therefore not a factor in the antagonism.

Repeated attempts to inhibit arsenic injury to plants in the local clay loam by additions of phosphate have been unsuccessful. However an inhibiting effect was obtained in a sandy loam. These results suggest that phosphate applications will reduce or prevent arsenic injury to plants where the type of soil is such as to permit the phosphate to remain available. Such an effect of phosphorus might be of considerable importance in areas having soils contaminated with injurious concentrations of arsenic from sprays.

Preliminary results indicate a corresponding relationship between rubidium and potassium, the second pair of elements selected for study from their positions in the periodic table. Into the picture might possibly be fitted also the well-known calcium-magnesium antagonism. Other combinations such as calcium with strontium and with barium are being investigated.

ENTOMOLOGY.—*A new Ecuadorian fleabeetle injuring crucifers (Coleoptera: Chrysomelidae).*[1] H. S. Barber, Bureau of Entomology and Plant Quarantine.

Prof. F. Campos R. recently submitted a sample of an apparently new species of green *Disonycha* with the statement that its larvae, in great numbers, cause damage to various kinds of cruciferous plants at Guayaquil, Ecuador. An earlier sample from the same place and observer, received in January 1918, and another sample labeled as from Chira, Peru, May 1928, G. N. Wolcott, are believed to be the same species, but host-plant records do not accompany these specimens. No description applicable to these samples has been found, and in order that a name may be available for the species a brief diagnosis is here offered together with notes from comparison with its near relatives.

Disonycha camposi, n. sp.

Length 5 mm; width 2.4 mm. Black with bluish reflection; the elytra metallic green, the occiput, pygidium, last ventral abdominal segment, distal parts of femora, and lower surface of the basal two (or three) antennal segments, yellow. Habitat: Ecuador and Peru.

Similar to *D. laevigata* Jacoby in shape, size, sculpture, and color of

[1] Received January 15, 1936.

elytra but differs in genitalic details as well as in the melanic suppression of the bright yellow color of the body and appendages, vestiges of this yellow color remaining on the basal antennal joints and the apices of all femora as well as in a transverse oval spot on top of the head and another involving the pygidium and most of the last visible sternite. The pronotum and propleurae as well as the metasternum are shining black; the first four visible sternites together with the meso- and meta-pleurae are black, opaque and clothed with fine appressed whitish pubescence. The aedeagus is of similar form and curvature to that of *laevigata* but darker brown in color of integument, shorter and more explanate apically, and the concave orificial plate is broadly truncate at apex in the type, with deceptive brown coloration suggesting apical bifurcation, whereas in *laevigata* this concave orificial plate is more attenuate and acutely pointed at apex with a brownish median area which is narrowly produced and rounded apically. The aedeagus of the also very similar *D. collata* (Fab.) resembles the above in profile, curvature, and outline, and the orificial plate displays a similar apical bifurcation of the brown sclerotization but its apex is laterally compressed, elevated and prolonged into an erect lamella. In a paratype from Peru the apex of the orificial plate is less truncate and suggests a slight unfolding of the adjacent part of the normally invaginated internal sac, the structure of which seems not to have been investigated in any species of *Disonycha*. Without such investigation the current standards of specific, subspecific, or synonymic status of available specific names can be little more than temporary opinion.

D. camposi may also be closely related to the two Colombian species, *D. exima* Harold 1876, which, it has recently been suggested, may be a prior name for *laevigata* Jacoby 1897, and to *D. steinheili* Harold 1876, but these two forms appear, from the original descriptions, to be larger and to have the pronotum and undersurface ferrugineous or testaceous.

Type ♂, allotype ♀, and eleven paratypes in the collection of the United States National Museum.

The selected holotype is one of ten specimens submitted from Guayaquil by Prof. Campos, eight of them about the end of 1917 and two in April 1935, the latter as adults of larvae injuring crucifers. Three other paratypes are labeled "No. 25–28 Chira, Peru. May 1928. G. N. Wolcott Collector."

It is a pleasure to select for this species the name of the zealous Ecuadorian who has contributed much to the knowledge of the insects of his country.